



# Series 53TP

25-50Amp • 240/480 Vac • 3 PHASE

- **SCR Output**
- **LED Status Indicator**
- **Protective Cover Available**  
(Part No. KS300)
- **Panel Mount**
- **Integrated Overvoltage Protection by Automatic Self Turn-On (Suffix P)**

Three-phase solid state relays switch up to 530 Vrms directly to loads such as motors, transformers, heating elements, etc. Available with either AC or DC input (coil) control in zero-voltage or random turn-on switching versions.

Manufactured in Crydom's ISO 9001 Certified facility for optimum product performance and reliability.

|                                                                       | MODEL NUMBERS | D53TP25D  | D53TP50D  | A53TP25D  | A53TP50D  |
|-----------------------------------------------------------------------|---------------|-----------|-----------|-----------|-----------|
| <b>OUTPUT SPECIFICATIONS ①</b>                                        |               |           |           |           |           |
| Operating Voltage (47-63 Hz) [Vrms]                                   |               | 48-530    | 48-530    | 48-530    | 48-530    |
| Load Current Range③ [Arms]                                            |               | .05-25    | .05-50    | .05-25    | .05-50    |
| Transient Overvoltage [Vpk]                                           |               | 1200      | 1200      | 1200      | 1200      |
| Max. Surge Current, (16.6ms) [Apk]                                    |               | 250       | 625       | 250       | 625       |
| Max. On-State Voltage Drop @ Rated Current [Vpk]                      |               | 1.6       | 1.6       | 1.6       | 1.6       |
| Thermal Resistance Junction to Case (R <sub>θJC</sub> ) [°C/W]        |               | 1.02      | .63       | 1.02      | .63       |
| Maximum I <sup>2</sup> t for Fusing, (8.3 msec.) [A <sup>2</sup> sec] |               | 260       | 1620      | 260       | 1620      |
| Max. Off-State Leakage Current @ Rated Voltage [mArms]                |               | 10        | 10        | 10        | 10        |
| Min. Off-State dv/dt @ Max. Rated Voltage [V/μsec]②                   |               | 500       | 500       | 500       | 500       |
| Max. Turn-On Time ④                                                   |               | 1/2 Cycle | 1/2 Cycle | 10.0 msec | 10.0 msec |
| Max. Turn-Off Time                                                    |               | 1/2 Cycle | 1/2 Cycle | 40.0 msec | 40.0 msec |
| Power Factor (Min.) with Max. Load                                    |               | 0.5       | 0.5       | 0.5       | 0.5       |

## INPUT SPECIFICATIONS ①

### DC CONTROL

### AC CONTROL

|                         |              |                                    |
|-------------------------|--------------|------------------------------------|
| Control Voltage Range   | 3-32 Vdc     | 90-280 Vrms (60Hz)                 |
| Max. Turn-On Voltage    | 3.0 Vdc      | 90 Vrms                            |
| Min. Turn-Off Voltage   | 1.0 Vdc      | 10 Vrms                            |
| Nominal Input Impedance | 450 Ohms     | 54.8k Ohms                         |
| Typical Input Current   | 10mA @ 5 Vdc | 2.2mA @ 120 Vrms, 4.4mA @ 240 Vrms |

## GENERAL NOTES

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- ① All parameters at 25°C and per section unless otherwise specified.  
 ② Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1  
 ③ Heat sinking required, for derating curves see page 2.  
 ④ Turn-on time for random turn-on versions is 0.02 msec (DC Control Models).

For recommended applications and more information contact:  
**USA: Sales Support** (877) 502-5500 **Tech Support** (877) 702-7700 **FAX** (619) 710-8540  
 Crydom Corp, 2320 Paseo de las Americas, Ste. 201, San Diego, CA 92154  
**Email:** sales@crydom.com **WEB SITE:** http://www.crydom.com  
**UK:** +44 (0)1202 365070 • **FAX** +44 (0)1202 365090 Crydom International Ltd., 7 Cobham Road, Ferndown Industrial Estate, Ferndown, Dorset BH21 7PE, **Email:** intsales@crydom.com.  
**GERMANY:** +49 (0)180 3000 506



# CRYDOM

Control over power

## Series 53TP

25-50Amp • 240/480 Vac • 3 PHASE

### GENERAL SPECIFICATIONS

Dielectric Strength 50/60Hz Input/Output/Base 4000 Vrms

Insulation Resistance (Min.) @ 500 Vdc  $10^9$  Ohm

Max. Capacitance Input/Output 8 pF

Ambient Operating Temperature Range -40 to 80°C

Ambient Storage Temperature Range -40 to 125°C

### MECHANICAL SPECIFICATIONS

Weight: (typical) 10.3 oz. (315g)

Encapsulation: Thermally Conductive Epoxy

Terminals: Screws and Saddle Clamps Furnished

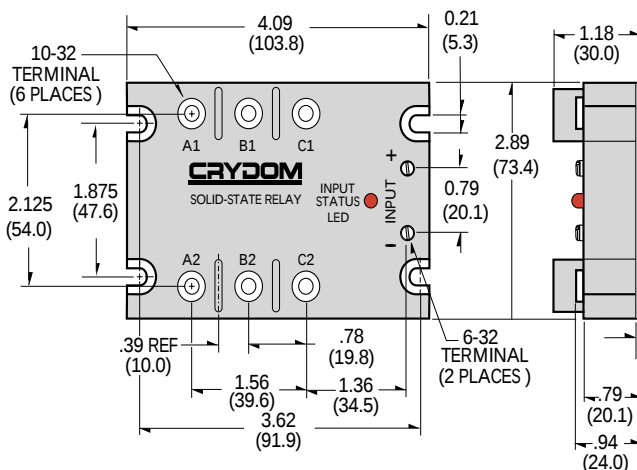
### AVAILABLE OPTIONS

**-10** Non-Zero Cross,  
Instantaneous Turn-On  
Example: D53TP50D-10

**DP** 2 Controlled, 1 Linked (A1-A2)  
Example: D53DP50D

**P** Internal Overvoltage Protection.  
Relay Will Self Trigger Between  
900-1200 Vpk. Not Suitable For  
Capacitive Loads.  
Agencies Approval Pending.  
Example: D53TP50DP

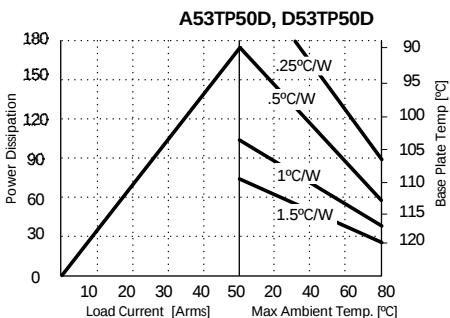
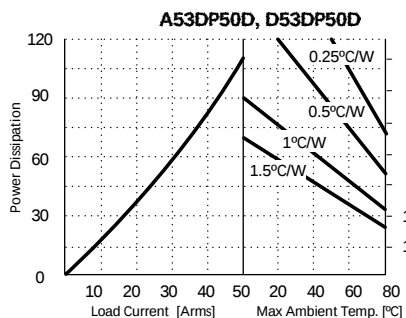
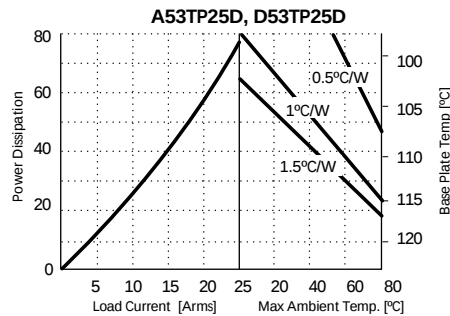
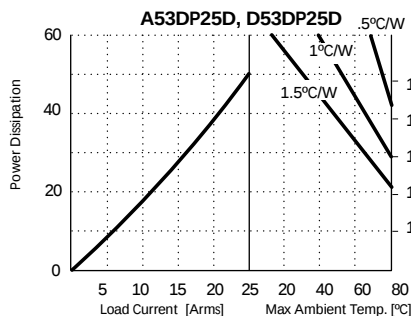
**Crydom Heat Sinks** offer excellent  
thermal management and are per-  
fectly matched to the load current  
ratings of Crydom panel mount  
relays. Request Crydom's Heat Sink  
specification sheet for all the details.



All dimensions are in inches  
(millimeters)

**Screw Torque Requirements:**  
6-32 Screws - 10 in. lbs.,  
8-32 and 10-32 Screws - 20in. lbs.  
(Screws dry without grease.)

### CURRENT DERATING CURVES



### APPROVALS

UL E116950

CSA LR81689

VDE 5941 UG



FastFax Document No.161

SERIES53TP

Rev. 011602

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Crydom Corp, 2320 Paseo de las Americas, Ste. 201, San Diego, CA 92154

Email: sales@crydom.com WEB SITE: <http://www.crydom.com>

UK: +44 (0)1202 365070 • FAX +44 (0)1202 365090 Crydom International Ltd., 7 Cobham

Road, Ferndown Industrial Estate, Ferndown, Dorset BH21 7PE, Email: [intsales@crydom.com](mailto:intsales@crydom.com).

GERMANY: +49 (0)180 3000 506

